

Remarks/Arguments

In the Office Action mailed on December 12, 2006, the Examiner rejected claims 1, 4-6, 9-11 and 14-20 under 35 USC §103(a) as unpatentable over Schwarz (US Patent 6,476,927) in view of Shaw (US Patent 5,604,843). The Examiner rejected claims 2-3, 7-8 and 12-13 as
5 unpatentable over Schwarz and Shaw in further view of Tominaga (US Patent Publication No. 2002/0015180).

Applicants respectfully traverse the rejections and request reconsideration and withdrawal thereof. Applicants have amended claims 1 and 6 to eliminate redundant language in the claims. These amendments do not alter the scope of the claims.

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35 USC §103(a) Rejection of Claims 1, 4-6, 9-11 and 14-20 Over Schwarz In View of Shaw

The 35 USC §103(a) rejection of claims 1, 4-6, 9-11 and 14-20 over Schwarz in view of Shaw is traversed as this combination of references does not describe or enable all of the limitations of the present claims. The rejection will be discussed in regard to amended
15 independent claim 6.

The present application is related to a system and method for operating a printing system in a multi-printer environment. Typically, each printer manufacturer has a unique set of device dependent printer commands to support printer options, such as covers, paper substitutions and finishing options. Current print job ticketing solutions are generally printer or printer-family
20 specific such that any ticketing settings will only work on a small set of printers. This forces an operator to re-ticket a print job every time it is to be printed on a printer from a different printer family. The present application allows a user to select printer options with respect to a print source file in a device independent manner. The selected printer options are then stored in a job ticket associated with the print source file. Later, when a printer is selected, the apparatus
25 according to the present application reads the job ticket and a printer capability file and converts the device independent printer options from the job ticket into at least one device specific printer command sent to the selected printer. The print source file is then sent to the selected printer, which prints the print source file responsive to the printer specific commands.

By contrast, Schwarz teaches a job token printer assignment system (Schwarz, col. 1,

lines 6-9). A print server receives a job ticket relating to a print job from a print driver (e.g., a print source file), and determines an appropriate printer for the print job based on information included in the job ticket (Schwarz, col. 3, lines 65-67 and col. 4, lines 1-3). A user selects within the print driver printer options from a superset of all available options in a printer pool
5 (Schwarz, col. 5, lines 3-5). The printer options include the desired number of copies, paper type, paper size, color and/or black and white printing, stapling and binding options, duplexing and sorting options (Schwarz, col. 5, lines 13-16). A print job ticket is then constructed from the printer options (Schwarz, col. 5, lines 10-11). The print job is then constructed from job ticket
10 information and print commands (Schwarz, col. 6, lines 13-15). Once the job ticket is sent to the print server, the print server selects a compatible printer matching the printer options for the print job (Schwarz, col. 5, lines 64-67), and transmits the identity of the printer to the print driver. The print driver then sends the print job to the selected printer for printing (Schwarz, col. 6, lines 28-32).

Shaw teaches systems and methods for providing a variety of functions for accessing
15 devices in a device-independent manner (Shaw, col. 1, lines 54-55). The graphics device interface (GDI) of Shaw allows an application program (e.g., Adobe Reader) to output a print source file (e.g., a PDF file) to an output device (e.g., a printer) (Schwarz, col. 1, lines 40-45). Each output device typically has a manufacturer defined device-specific protocol for communicating with the device, as well an associated device driver (e.g., a print driver)
20 (Schwarz, col. 1, lines 12-31). Rather than requiring an operating system and/or an application program to know how to directly communicate with particular types of output devices, a common set of functions are available by the application program through the operating system to output a print job (Schwarz, col. 1, lines 23-31). The operating system then calls a print driver for a specific device which implements device specific functions corresponding to the common
25 set of functions available through the operating system (Schwarz, col. 1, lines 23-31). The operating system may then communicate with the device using the device specific commands (Schwarz, col. 1, lines 29-31). The system of Shaw thus allows for a program to output a file stored in a device independent format (such as PDF), to a device specific format (such as IPDS) using various layers of functions within an operating system and print driver to generate the
30 device specific format.

The present claims recite two distinct types of data relating to a print job. The first type

of data is a print source file (i.e., the actual text and images that will be applied to paper during the printing process). The second type of data is printer options stored within a job ticket, which include information regarding how the print source file will be presented on the paper (i.e., the paper color, whether the paper will be stapled or bound, whether the print source file will be
5 simplex or duplexed, etc.). Regardless of how the print source file will be presented on the paper according to the printer options, the content of the print source file will remain the same.

The Schwarz reference essentially teaches nothing more than the previously cited Koana reference (U.S. Patent 6,888,641). Both references teach systems which allow an operator to select desired capabilities of a printer for a specific print job, and then select a printer for the
10 print job based on the desired printer capabilities. However, Schwarz, like Koana, does not teach the recited elements of converting selected printer options which are in a printer independent format into printer specific commands. Rather, the printer options of Schwarz are used to select a desired printer, and are not converted to printer specific commands.

As the Examiner correctly points out in the Office Action, Schwarz does not teach
15 mapping independent printer options to printer specific commands or converting device independent printer options to printer specific commands. The Shaw reference does not alleviate the deficiencies of the Schwarz reference. Shaw only teaches converting output data (which is equivalent to the print source file of claim 6) into printer specific commands (Shaw, col. 8, lines 32-35) to render text and/or graphics onto paper. This is analogous to converting the image of a
20 patent publication from a device independent format (e.g., PDF) into a printer specific format (such as IPDS, PCL or PostScript).

This type of conversion of a print source file is typically done on modern printing systems to generate printer commands which are specific to a particular printer for printing the text and images of the patent publication on paper. However, printer options as recited by claim
25 6 may control whether or not the paper is stapled, simplex or duplexed, etc., and are specified by the operator as part of the job ticket. These options are then transmitted as printer commands to the printer for printing of the print source file. Prior job ticketing solutions are generally printer or printer-family specific such that any ticketing settings will only work on a small set of printers. Thus, as presently practiced, a user must re-ticket the job (i.e., re-select the desired
30 printer options) for each family of printers.

The apparatus of claim 6 allows an operator to store this type of information in a device independent format in a job ticket. For example, an operator may generate a job ticket specifying printing of a print source file where the printer options specify that the job ticket is to be printed duplex, on blue paper, and stapled on the upper left-hand corner. These options will be stored in a device independent format. The operator may then select a printer and above exemplary printer options will be converted to specific commands for duplexing the print source file on blue paper and stapling the document in the upper-left-hand corner. If the operator later wants to reprint the print job on another printer using the same printer options, then the operator selects the previous job ticket and the new printer, and the printer options are converted to specific commands for the newly selected printer. Thus, the operator does not need to reselect the printer options for a print source file each time a new printer is utilized for printing.

Neither reference teaches or reasonably suggests conversion or mapping features of device independent printer options into printer specific commands. Since neither Schwarz nor Shaw teach or reasonably suggest this claimed feature, the combination of the references does not teach or reasonably suggest the presently claimed apparatus of amended claim 6.

Applicants maintain that the apparatus of claim 6 is novel and also unobvious over Schwarz in view of Shaw and over all art of record (considered individually or in any combination). The 35 USC §103(a) rejection of independent claims 1 and 11 is traversed for at least the same reasons as cited for claim 6. These same arguments apply to dependent claims 4-5, 9-10 and 14-20. In addition, dependent claims 1, 4-5, 9-11 and 14-20 recite additional limitations not disclosed by the combination of Schwarz and Shaw. Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 4-6, 9-11, and 14-20.

35 USC §103(a) Rejection of Claims 2-3, 7-8 and 12-13 Over Schwarz and Shaw In View of Tominaga

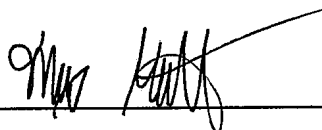
The 35 USC §103(a) rejection of claims 2-3, 7-8 and 12-13 over Schwarz and Shaw in view of Tominaga is traversed as this combination of references does not describe or enable all of the limitations of the present claims. As noted above, the combination of Schwarz and Shaw does not disclose the conversion and mapping features of independent claims 1, 6 and 11, from which dependent claims 2-3, 7-8 and 12-13 depend on. Tominaga does not alleviate the

deficiencies of the combination of the Schwarz and Shaw references, as Tominaga does not disclose the conversion and mapping features of the present claims. Since neither Schwarz, Shaw nor Tominaga teach or reasonably suggest conversion or mapping features of device independent printer options into printer specific commands, the combination of the references does not disclose the presently claimed methods of claim 2-3. These same arguments apply to claims 7-8 and 12-13. Additionally, dependent claims 2-3, 7-8 and 12-13 recite additional elements not shown by the prior art of record. Applicants respectfully request reconsideration and withdrawal of the rejection of claims 2-3, 7-8 and 12-13.

Conclusion

Applicants maintain that all independent claims 1, 6 and 11 are inventively distinguishable from all prior art of record (considered individually or in any combination) for at least the above discussed reasons. Further, remaining dependent claims 2-5, 7-10, and 12-20 are allowable for at least the same reasons and as depending from allowable base claims. Still further, dependent claims 2-5, 7-10, and 12-20 recite additional limitations not disclosed by the prior art. Applicants therefore respectfully request reconsideration and withdrawal of the rejections under 35 USC §103(a).

Respectfully submitted,



Max S. Gratton (Reg. No 56,541)
Duft Bornsen & Fishman, LLP
1526 Spruce Street, Suite 302
Boulder, CO 80302
(303) 786-7687
(303) 786-7691 (fax)